

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph commencing at page 10, line 6 as follows:

Fig. 1 is a top ~~plane~~plan view illustrating a schematic configuration of an optical transmitter/receiver module that is a first embodiment of the present invention;

Please amend the paragraph commencing at page 11, line 6 as follows:

Fig. 9 is a top ~~plane~~plan view illustrating a schematic configuration of an optical transmitter/receiver module that is a second embodiment of the present invention;

Please amend the paragraph commencing at page 11, line 17 as follows:

Fig. 1 is a top ~~plane~~plan view illustrating a schematic configuration of an optical transmitter/receiver module that is a first embodiment of the present invention. This optical transmitter/receiver module has a structure in which: a PLC chip 1 in which waveguides 4 to 7, a light-emitting element mounting section 1a and an optical fiber mounting section 1b were formed; a light-emitting element 2 such as the LD mounted on the light-emitting element mounting section 1a on the PLC chip 1; an optical fiber 3 that introduces the send light outside the module or introduces the receive light from the exterior within the module, which was mounted on the optical fiber mounting section 1b on the PLC chip 1; and photoreceptive elements 8 and 9 such as the PD were provided on a substrate and were contained within a module outer frame 17.

Please amend the paragraph commencing at page 12, line 25 as follows:

The end face of this spot-size conversion region 12 faces the light-emitting surface of the light-emitting element ~~7~~2, and light emitted from the light-emitting surface of the light-emitting element ~~7~~2 enters the end face of the spot-size conversion region 12 with a pre-determined spot-size.

Please amend the paragraph commencing at page 13, line 13 as follows:

At the end of the waveguide 7 is provided a spot-size conversion region 13. Fig. 3 is an enlarged perspective view of the spot-size conversion region 13. In an example shown in Fig. 3, the waveguide 7 includes a structure in which an optical waveguide core 61 was surrounded by a clad layer 60, and the end face of the optical waveguide core 61 is the spot-size conversion region 13. This spot-size conversion region 13 has a structure expanded gradually so that a thickness and a width of the core become large all the more in the core end face side. The end face of this spot-size conversion region 13 faces the ~~light-emitting~~ photoreceptive surface of the photoreceptive element 9, and light emitted from its end face enters the photoreceptive surface of the photoreceptive element 9 with a pre-determined spot-size.

Please amend the paragraph commencing at page 17, line 9 as follows:

In Fig. 4, is illustrated a relation of the LD-optical waveguide coupling loss against the spot-size of the LD port optical waveguide end. In fig. 4, a ~~continuous~~dashed line ((1)) illustrates the case that the refractive index matching resin is charged in the optical coupling

section, and a ~~dashed~~-continuous line ((2)) illustrates the case that the refractive index matching resin 15 is not charged. In an example shown in this Fig. 4, by reducing the spot-size of the LD port optical waveguide end from w_f , which is the spot-size of the fiber port, to the spot-size w_{ld} , which is about $(2/5) \cdot w_f$ thereof (approximating it to the spot-size of the LD), the optical coupling loss is improved by about 4dB in the event that the refractive index matching resin is not present, and in the event that the refractive index matching resin is present, it is furthermore improved by 1dB. Thus, in accordance with the optical transmitter/receiver module of this embodiment, reduction of the optical coupling loss can be realized with not only the spot-size conversion region 12, but also the refractive index matching resin 15.

Please amend the paragraph commencing at page 21, line 15 as follows:

Fig. 9 is a top ~~plane~~-plan view illustrating a schematic configuration of an optical transmitter/receiver module that is a second embodiment of the present invention. This optical transmitter/receiver module is a module having a wavelength division multiplex structure in which a layout of the optical active element and the optical waveguide of the structure of the foregoing first embodiment was changed to provide a WDM (Wavelength Division Multiplex) filter 31. The effect accompanying the spot-size conversion explained in the foregoing first embodiment is also similarly obtained in this embodiment; however, herein, for simplification of explanation, its explanation is omitted for convenience and only the different part from the first embodiment will be explained.